



UNITED STATES PATENT AND TRADEMARK OFFICE

78

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/683,900	02/28/2002	Gerald Burt Kliman	RD-28364	9256

6147 7590 12/29/2003

GENERAL ELECTRIC COMPANY
GLOBAL RESEARCH CENTER
PATENT DOCKET RM. 4A59
PO BOX 8, BLDG. K-1 ROSS
NISKAYUNA, NY 12309

EXAMINER

WAKS, JOSEPH

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 12/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/683,900

Applicant(s)

KLIMAN ET AL.

Examiner

Joseph Waks

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-19,40 and 42-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-19,40 and 42-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1003.

- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 16 and 17** are rejected under 35 U.S.C. 102(b) as being anticipated by **Satomi et al. (JP 07336992 A)**.

Satomi et al. disclose in Figures 1, 2, and 6-8 stator windings W1-W10 comprising a wound shape designed to provide space for a desired tooth tip shape, a laminated stator yoke 34 situated around the stator windings, wherein laminations forming the laminated stator yoke comprise the yoke and teeth 33 extending therefrom, molded composite tooth tips 31 between respective windings and in contact with the teeth of the laminated stator yoke and the key notches 35.

3. **Claim 40** is rejected under 35 U.S.C. 102(b) as being anticipated by **Rosenberry (US 4,392,072)**.

Rosenberry discloses a machine stator having stator windings 13, 13A, 13B around respective stator teeth 3-6 and a stator yoke 2B radially surrounding and coupled to the stator teeth, wherein the stator yoke is a composite stator yoke (Re column 3, lines 24-27)

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 18 and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over by **Satomi et al. (JP 07336992 A)** in view of **Bansai et al. (US 4,994,700)**.

Satomi et al. disclose the stator essentially as claimed. However, **Satomi et al.** do not disclose corrugated insulation around at least portions of the windings.

Bansai et al. disclose in Figure 4 a corrugated slot liner 34' surrounding windings 30 for the purpose of biasing the coil against movement in the slot.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the stator as taught by **Satomi et al.** and to provide corrugated liner around at least portions of the windings as taught by **Bansai et al.** for the purpose of biasing the coil against movement in the slot. It would have been further obvious to make the liner with electrically insulating properties to prevent electric leaks from the windings to the magnetic yoke, since slot liners of electrically insulating material are well known in the art of electric machines (Re Rosen berry's Figure 3, element 14B for example).

6. **Claim 36** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Ryder et al. (US 2,607,816)** in view of **Baronosky et al. (US 5,866,965)**.

Ryder et al. disclose a machine stator comprising windings 28 around laminated stator teeth 12 and the stator yoke 14, the windings include the wider winding portion closer to the yoke than the narrower portion. However, **Ryder et al.** do not disclose the stator windings comprising a flat wound stator winding.

Baronosky et al. disclose the machine stator including the flat wound stator winding 15 for the purpose of maximizing the winding density, thus maximizing the strength of the magnetic field generated by the stator.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the stator as taught by **Ryder et al.** and to provide the stator windings comprising a flat wound stator winding as taught by **Baronosky et al.** for the purpose of maximizing the winding density, thus maximizing the strength of the magnetic field generated by the stator.

7. **Claims 42-44** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Rosenberry (US 4,392,072)** in view of **Ichiyama et al. (US 4,613,842)**.

Rosenberry discloses the stator essentially as claimed. However, **Rosenberry** does not disclose the stator yoke comprises a material having azimuthally oriented grain, and/or the stator teeth comprise material having radially oriented grain.

Ichiyama et al. disclose in Figures 8B-8D the stator yoke 30a comprises a material having an azimuthally oriented grain, and/or the stator teeth 30b comprise material having a radially oriented grain for the purpose of reducing the watt loss of both the yoke and the teeth regions.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the stator as taught by **Rosenberry** and to provide the stator yoke comprises a material having azimuthally oriented grain, and/or the stator teeth comprise material having radially oriented grain as taught by **Ichiyama et al.** for the purpose of reducing the watt loss of both the yoke and the teeth regions.

Response to Arguments

8. Applicant's arguments filed May 23, 2003 have been fully considered but they are not persuasive.

Regarding claims 16 and 17, the method of forming the device is not germane to the issue of patentability of the device itself. In this particular case whether the windings are wound around the teeth before or after adding the tips does not change the structure of the winding having shape designed to provide space for a desired tooth tip shape i.e. tooth tip exceeding the length of the stator core. Therefore the stator structure disclosed in Figures 6-8 fully meet the limitations as claimed.

Regarding claim 40 examiner directs applicants attention to column 5, lines 33-38 where Rosenbarry discloses that

In addition, in alternative forms of the invention, the yoke portion (2) of a stator, similar to the one shown in FIG. 2, can be formed by molding an annulus of suitably compacted amorphous metal flakes and binding resin, rather than using a wound ribbon of such metal to form the yoke. Subsequently, either molded teeth, such

Prior Art

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Conclusion

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

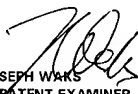
MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Waks whose telephone number is (703) 308-1676. The examiner can normally be reached on Monday through Thursday 8 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor R Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.


JOSEPH WAKS
PRIMARY PATENT EXAMINER
TC-2800